Issue No. 6 – 2017 December

Joint Convention NEWS

JOINT CONVENTION ON THE SAFETY OF SPENT FUEL MANAGEMENT AND ON THE SAFETY OF RADIOACTIVE WASTE MANAGEMENT

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President's Message

Preparing for the Sixth Review Meeting

The Joint Convention applies to countries both with and without nuclear power programmes and is aimed at: (1) achieving and maintaining a high level of safety in spent fuel and radioactive waste management; (2) ensuring that there are effective defences against potential hazards during all stages of management of such materials; and (3) preventing accidents with radiological consequences and to mitigate their consequences should they occur.

This year commemorated the twentieth anniversary of the Joint Convention, which was adopted on 5 September 1997 and opened for signature at the IAEA General Conference on 29 September 1997. Since the entry into force of the convention, we have made significant progress not only in expanding the number of Contracting Parties, but also in carrying out robust and constructive engagements during the review process.

I am pleased to report that the number of Contracting Parties has increased since the last review meeting from 69 to 77. The newest Contracting Party being Serbia who deposited its instrument of accession on 18 December 2017. However, it is recognised that a significant number of IAEA Member States are not Contracting Parties to the Joint Convention. Included among these are Contracting Parties to the Convention on Nuclear Safety and several that have issued expressions of support for the Code of Conduct on the Safety and Security of Radioactive Sources. I strongly support and will continue active efforts to encourage these IAEA Member States to become Contracting Parties to the Joint Convention.

Through the Joint Convention peer review process, the Contracting Parties not only continue to improve their own respective levels of safety related to spent fuel and radioactive waste management, but also provide the driving force and impetus for the enhancement of the global safety framework. During this sixth review cycle of the Joint Convention, we will continue fostering practical and mutually beneficial cooperation aimed at improving the level of safety. In the Sixth Review Meeting, we will pilot the application of the concept of "Area of Good Performance", the definition of which is presented on page 7 of this newsletter. Furthermore, the County Group officers of the Sixth Review Meeting have committed to a rigorous and uniform application of the concepts of "Good Practice" and "Area of Good Performance" during the meeting.

I would like to thank all Contracting Parties that have timeously submitted their National Reports and strongly encourage those Contracting Parties that have not yet submitted their National Reports to do so as soon as possible. This will ensure a smooth and robust peer review of all National Reports. I trust it is our mutual desire to have a 100% of National Reports submitted to the Sixth Review Meeting.

With the National Reports now almost all in hand, it is time to look ahead to your further obligations under the Joint Convention:

(1) Submission of Questions and Comments on National Reports Submitted By Other Contracting Parties

(a) Contracting Parties are reminded that the deadline, agreed at the Fifth Review Meeting, for submission of questions and comments on National Reports of other Contracting Parties is **23 February 2018**.

(b) Pursuant to the *Guidelines Regarding the Review Process* (INFCIRC/603/Rev.7), each Contracting Party should study in detail the National Reports of all Contracting Parties in their Country Group. The goal of this review is to determine whether the National Report adequately describes the extent to which the relevant Contracting Party meets the obligations prescribed in the Joint Convention. Particular focus should be placed on the addressing of the four issues agreed to at the Fifth Review Meeting, namely –

(i) Staffing, staff development, reliability of funding, and other human resource areas;

(ii) Maintaining or increasing public involvement and engagement on waste management, to provide public confidence and acceptance;

(iii) Developing and implementing a holistic and sustainable management strategy for radioactive waste and spent fuel at an early stage; and

(iv) Management of disused sealed sources.

(c) Additionally, as you review the National Reports of other Contracting Parties, I encourage you to begin identifying possible challenges, suggestions, areas of good performance and good practices, with due regard to the definitions thereof.

(2) Responding to Questions and Comments on your National Report

(a) As indicated above, questions and comments on your National Reports will be provided by 23 February 2018.

(b) You are reminded that your responses on these are due by **23 April 2018**.

(3) Participation in the Sixth Review Meeting

(a) The final obligation will be attendance and active participation in the Sixth Review Meeting of the Contracting Parties to the Joint Convention, from **21 May 2018 to 1 June 2018**.

(b) I look forward to having 100% representation by all Contracting Parties at our Sixth Review Meeting.

Thank you for your continued commitment to ensuring a robust peer review process under the Joint Convention and for contributing to the global improvement of the safety of spent fuel management and the safety of radioactive waste management.

Bismark M. Tyobeka

President

Sixth Review Meeting
of the Joint Convention

Third Extraordinary Meeting

Fifty-seven of the Contracting Parties to the Joint Convention met at the IAEA Headquarters, Vienna, Austria, from 16–17 May 2017 for the Third Extraordinary Meeting of the Contracting Parties. The decision to hold an Extraordinary Meeting prior to the Organizational Meeting for the Sixth Review Meeting was made by consensus at the Fifth Review Meeting in May 2015. The purpose of the meeting was to consider revisions to the Rules of Procedure and Financial Rules, as well as to the Guidelines regarding the Review Process and the Guidelines regarding the Form and Structure of National Reports (contained in the IAEA documents INFCIRC/602/Rev.5, INFCIRC/603/Rev.6 and INFCIRC/604/Rev.3, respectively).

Mr. David Huizenga, United States of America, presided as President as participants considered proposals to improve implementation of the Joint Convention peer review process. Mr. Huizenga provided a short historical outline of the Joint Convention. He recognized progress made through the Joint Convention in the management of spent fuel and radioactive waste while spent fuel and radioactive waste continue to be accumulated around the world. Mr. Huizenga introduced the new Joint Convention Coordinator, Ms. Sandra Geupel, and welcomed five new Contracting Parties since the Fifth Review Meeting in May 2015 (Botswana, Jordan, Lesotho, Niger and Peru), as well as one late ratifier (Madagascar) which will become a Contracting Party in June 2017. This will bring the total number of Contracting Parties to 75.

Mr. Andrew Orrell, Acting Director of the Division of Radiation, Transport and Waste Safety, Department of Nuclear Safety and Security of the IAEA, welcomed all Contracting Parties. He reiterated the three objectives of the Joint Convention, as stated in Article 1 of the Joint Convention. Mr. Orrell also noted that the meeting was a further effort by the Contracting Parties to improve the implementation of the nuclear safety conventions adopted under the auspices of the IAEA, and that the IAEA Secretariat welcomed this effort.

Mr. Sigurður Magnusson, Iceland, presented the outcome of a Consultancy Meeting held in October 2016 to discuss feedback from Contracting Parties to improve the review process for the Joint Convention. The Contracting Parties at the Fifth Review Meeting of the Joint Convention requested the Consultancy Meeting which was chaired by Mr. Magnusson. The Consultancy Meeting produced 11 proposals which were "down selected" to three proposals which were presented for detailed discussion:

- Promotional Activities: Contracting Parties discussed the proposal on exploring the feasibility of providing financial support to new Contracting Parties attending their first Review Meeting. No decision was made in this regard. This issue may be further discussed in the Open-Ended Working Group (OEWG) for the Sixth Review Meeting of the Joint Convention.

- Review Process – National Reports: Contracting Parties discussed a proposal to establish a Working Group to review and propose as appropriate the revision of the Joint Convention guidance documents, in particular to accommodate specific reporting needs of Contracting Parties without a nuclear power program, including potential development of templates. Contracting Parties agreed to further discuss this issue during the OEWG at the Sixth Review Meeting. Several Contracting Parties expressed an interest in working together to develop proposals for consideration in the OEWG.

- Review Process – Review Meetings: Contracting Parties discussed the proposal to have, on one day during the Closing Plenary Session of the Sixth Review Meeting,

two parallel Topical Sessions: one on spent fuel and high level waste, while the other focusing on the management of disused sealed radioactive sources. The Contracting Parties expressed a preference to not hold parallel sessions. Contracting Parties noted that a decision on this matter, including the topic(s) to be chosen, will be made during the Organizational Meeting for the Sixth Review Meeting, to be held subsequent to this Extraordinary Meeting.

There were eight additional proposals from the Consultancy Meeting that were consolidated and summarized by the President as follows:

- Promotional activities should be twin-pronged to target both the political and technical/regulatory/legal institutions within a Member State. This proposal is already being implemented by the Secretariat in ongoing efforts to encourage adherence.

- Contracting Parties explore ways to invite certain Member States (Non-Contracting Parties), particularly those with or considering developing nuclear power programmes, to observe parts of the Closing Plenary Session of the Sixth Review Meeting. Contracting Parties already have the authority to do this.

- Use the existing Joint Convention Newsletter as an additional tool to further promote and elevate the Joint Convention. The Contracting Parties supported continuing the Newsletter, especially as a tool for promotional activities.

- The Secretariat of the Joint Convention should engage Regional Networks, in particular those being part of the IAEA Global Nuclear Safety and Security Network (GNSSN), to assist new Contracting Parties in their participation in the Joint Convention review process. There was no objection to using existing authority to implement this proposal.

- The President of the Joint Convention Review Meeting sends letters to the national contact points to remind them of their obligations under the Joint Convention. The Contracting Parties recommended that the President of the Sixth Review Meeting continues this practice.

The participants of the Third Extraordinary Meeting reached consensus to formally change the Joint Convention Guidelines INFCIRC/603 for making National Reports publicly available 90 days after the Review Meeting, unless a Contracting Party notifies the IAEA Secretariat otherwise. The Contracting Parties also reached consensus on expanding the number of Country Review Groups from seven to eight.

The Contracting Parties also discussed the identification of “Good Practices” and “Overarching Issues” during the Country Group sessions. Taking into account the experiences from the Fifth Review Meeting and the Sixth Review Meeting of the Convention on Nuclear Safety (CNS), they agreed upon a strict and consistent interpretation of the term “Good Practice” across all Country Groups. Similar to the CNS approach, a new term “Areas of Good Performance” shall be introduced on a trial basis but without any changes to the Guidelines.

Sixth Organizational Meeting

The Sixth Organizational Meeting of the Contracting Parties under the Joint Convention was held at the IAEA Headquarters, Vienna, Austria, from 18–19 May 2017. Mr. David Huizenga, United States of America, presided over the meeting attended by 57 of the Contracting Parties. The purpose of the meeting was to elect the Officers, allocate the Contracting Parties to Country Review Groups, approve recommendations for a budget, and consider convening topical sessions.

Mr. Huizenga introduced the Presidential candidate, Mr. Bismark Tyobeka from South Africa, who the Contracting Parties by consensus elected to serve as President for the Sixth Review Meeting. Mr. Tyobeka pledged full commitment and strong leadership for the entire three-year term. He also pledged to promote a team approach to ensure effectiveness and efficiency of the review meeting and the peer review process. Mr. Tyobeka said he intends to work closely with the Vice-Presidents and other officers to encourage constructive and frank discussions on key issues faced by the Contracting Parties. He will encourage full and active participation by all Contracting Parties, engage in regular contact with Contracting Parties to remind them of their roles and responsibilities, and follow up on proposals to improve the review process for the Joint Convention. Mr. Tyobeka noted his belief that there is synergy in approach between the Joint Convention and the Convention on Nuclear Safety. He committed to work closely with outgoing officers of the Convention on Nuclear Safety to ensure lessons learned are incorporated into the Joint Convention.

A slate of Country Groups officers were also nominated and selected from the Contracting Parties. The two declared candidates for Vice-President provided brief statements before being elected by the Contracting Parties through consensus. Mr. Geoff Williams, Australia, and Mr. Douglas Tonkay, United States of America, will serve as Vice-Presidents.

Pursuant to the outcomes of the Third Joint Convention Extraordinary Meeting, it was decided to establish eight Country Groups for the Sixth Joint Convention Review Meeting. As described in Section V of the Joint Convention *Guidelines regarding the Review Process* (INFCIRC/603/Rev.6), the Meeting participants used the list of nuclear power reactors of Contracting Parties as the basis for establishing Country Groups. Pursuant to the Guidelines, the Meeting allocated the Contracting Parties to Country Groups based on the ranking established in the list of nuclear power reactors, using a tennis seeding method. The Contracting Parties without nuclear power reactors were added to Country Groups, continuing from the point at which allocation of the Contracting Parties with nuclear power reactors ended. As the randomly chosen letter was "**O**", the allocation of the Contracting Parties without nuclear power reactors started with **Oman** and continued in alphabetical order. The procedure resulted in the composition of Country Groups and was agreed at the Meeting.

The IAEA Secretariat presented a proposed budget estimate for the Sixth Review Meeting. The proposed budget of 516,000 Euros was more than double the estimate of 204,300 Euros that was provided for the Fifth Review Meeting.

Turnover of the Officers

Information exchange

According to the Guidelines for the Review Process (INFCIRC/603/Rev.6), a workshop of incoming and outgoing officers shall be held after the Organizational Meeting to describe the Review Meeting process in detail and to share experience and lessons learned. The workshop was held from 18–20 July 2017 in Vienna. At five panels, outgoing officers presented their experiences gained at previous Review Meetings in order to prepare incoming officers for their forthcoming work. Several speakers highlighted the importance of close cooperation between the officers in order to achieve the goals of the review process.

Model review session

The course of a Country Group session was simulated in a role play consisting of a country presentation, the following discussion, the presentation of the Rapporteur's report and the approval of this report.

Areas of Good Performance

As agreed to by the Contracting Parties at the Third Extraordinary Meeting, the concept of "Areas of Good Performance" will be introduced on a trial basis by using an approach similar to the one used during the Seventh Review Meeting of the Contracting Parties to the Convention of Nuclear Safety. The following definition of the term "Area of Good Performance" will be used during the Sixth Review Meeting of the Contracting Parties to the Joint Convention:

"An Area of Good Performance is a new or enhanced practice, policy or program for a Contracting Party that is commendable and is being implemented. An Area of Good Performance is a significant accomplishment for the Contracting Party, although it may have been undertaken by other Contracting Parties."

The officers of the Joint Convention Sixth Review Meeting committed to a rigorous and uniform application of the concepts of Good Practice and Area of Good Performance during the Sixth Review Meeting.

Revised Templates for Coordinator's Report

In response to suggestions from the Fifth Review Meeting of the Contracting Parties to the Joint Convention, the officers reviewed and modified the template for the Coordinator's Report. The revisions seek to align the reports prepared by the Coordinators and the Rapporteurs. A copy of the revised template can be accessed on the Joint Convention secure website (https://jc.iaea.org/).

Twentieth Anniversary Celebration during IAEA General Conference

On 18 September 2017, delegates from IAEA Member States celebrated the 20th anniversary of the adoption of the Joint Convention at an event in the margins of the 61st IAEA General Conference.

Juan Carlos Lentijo, IAEA Deputy Director General and Head of the Department of Nuclear Safety and Security, expressed thanks to all Contracting Parties to the Joint Convention. Representatives from Canada, Japan, Finland, Ghana and Cuba shared their experiences, highlighting the role of the Joint Convention as a global instrument for safely managing radioactive waste.

"We need to demonstrate that we are the global champions for the safety of radioactive waste and spent fuel to the same rigor as security and safeguards," Lentijo said. "Among the ways to achieve this is to commit to international peer reviews, publish reports and findings and encourage transparency and openness."

Ramzi Jammal, Executive Vice-President and Chief Regulatory Officer at the Canadian Nuclear Safety Commission, described how peer reviews and structured self-assessment have helped Canada evaluate the adequacy of its safety measures. He also highlighted that the Convention provides an international forum for cooperation between regulators and the industry, where knowledge about decommissioning strategies and deep geological repositories can be gained.

Jussi Heinonen, Director for Nuclear Waste and Material Regulation in Finland's Radiation and Nuclear Safety Authority, said the Convention's self-assessment process and peer review mechanism have been useful for enhancing the safety of Finland's management of radioactive waste and spent fuel. Finland is constructing the world's first underground disposal facility for spent fuel and high-level radioactive waste.

"The Joint Convention process has enhanced the development of a national framework, an effective regulatory system and the establishment of a national waste management program," he said.

The Convention and its peer review process were also beneficial to Ghana, said Benjamin Nyarko, Director General of Ghana's Atomic Energy Commission.

"The peer review process has provided Ghana with an opportunity to learn from countries with advanced nuclear programs," he said. "It gave important insight into the strengths and weaknesses of the overall radioactive waste management program."

Alba Guillén Campos, Director of Cuba's National Center for Nuclear Safety, stressed the relevance of the Convention to her country, which is using radiation sources in medicine, industry, agriculture, research and education. Cuba is new to the Convention and is preparing its first national report for the Sixth Review Meeting of the Contracting Parties, to be held in May 2018 in Vienna.

In closing the meeting, Peri Lynne Johnson, Legal Advisor and Director of the IAEA's Office of Legal Affairs, presented the various tools that the IAEA uses to assist those States that have not yet adhered to or implemented the Convention, as well as the promotional activities designed to encourage membership. "We should aim to ensure that [the Joint Convention] becomes universal in its adherence and implementation," Johnson said, adding that it continues to evolve as a result of the peer-review process.

(For the full story, go to the IAEA website https://www.iaea.org/newscenter/news/joint-convention-on-spent-fuel-and-radioactive-waste-safety-celebrates-20th-anniversary.)

Developments in Finding a HLW Disposal Site in Germany

For the selection of a disposal site for spent fuel and heat-generating radioactive waste, the Act on the Search and Selection of a Site for Disposal of Heat-Generating Radioactive Waste and for the Amendment of Other Laws (Site Selection Act, German: *StandAG*) adopted a new procedure. A Commission on the Storage of High-Level Radioactive Waste elaborated on several recommendations regarding the site selection procedure including provisions for corrective actions, such as retrievability and recoverability. The recommendations of the Commission were implemented in an amendment of the Site Selection Act which largely entered into force in May 2017.

Early and comprehensive public participation is of paramount importance in the site selection procedure. To involve the public, bodies are set up at the national and regional level that are independent of authorities and project implementer. Each body is equipped with the necessary resources.

By the establishment of the new Federal Office for the Safety of Nuclear Waste Management (BfE) and the Bundes-Gesellschaft für Endlagerung mbH (BGE), a structural reorganisation has been implemented at the legislative level.

In the site selection procedure, the BfE takes over the tasks of the regulatory body. It examines the proposals of the project implementer, approves exploration programmes, reviews the final site proposal and develops well-founded recommendations. The BfE is also the organiser and coordinator of public participation. After completing the site selection procedure, BfE will be the licensing authority for the subsequent nuclear licensing procedure for the construction, operation and closure of the disposal facility.

The publicly owned BGE is the project implementer and has the task of implementing the site selection procedure. In the procedure to be performed on a step-by-step basis, the project implementer will first identify areas with favourable geological conditions, develop proposals for the sites to be explored, explore these by means of exploration programmes and test criteria agreed upon with the BfE, and prepare the respective preliminary safety investigations. By using the site selection procedure, BGE will continuously narrow down the number of prospective disposal sites in three steps until the site offering the best possible safety can be proposed. In doing this, BGE is committed to transparent information of the public on its work.

Important milestones, such as the decision on the selection of exploration sites for surface and subsequent underground exploration and, most important, the final decision on the disposal site will be determined by federal laws. The site decision is binding for the subsequent licensing procedure for the construction, operation and closure of the disposal facility, in which BGE will act as licensee.

The planned steps in the realisation of a geological disposal facility for heat-generating radioactive waste are shown in Figure 1.

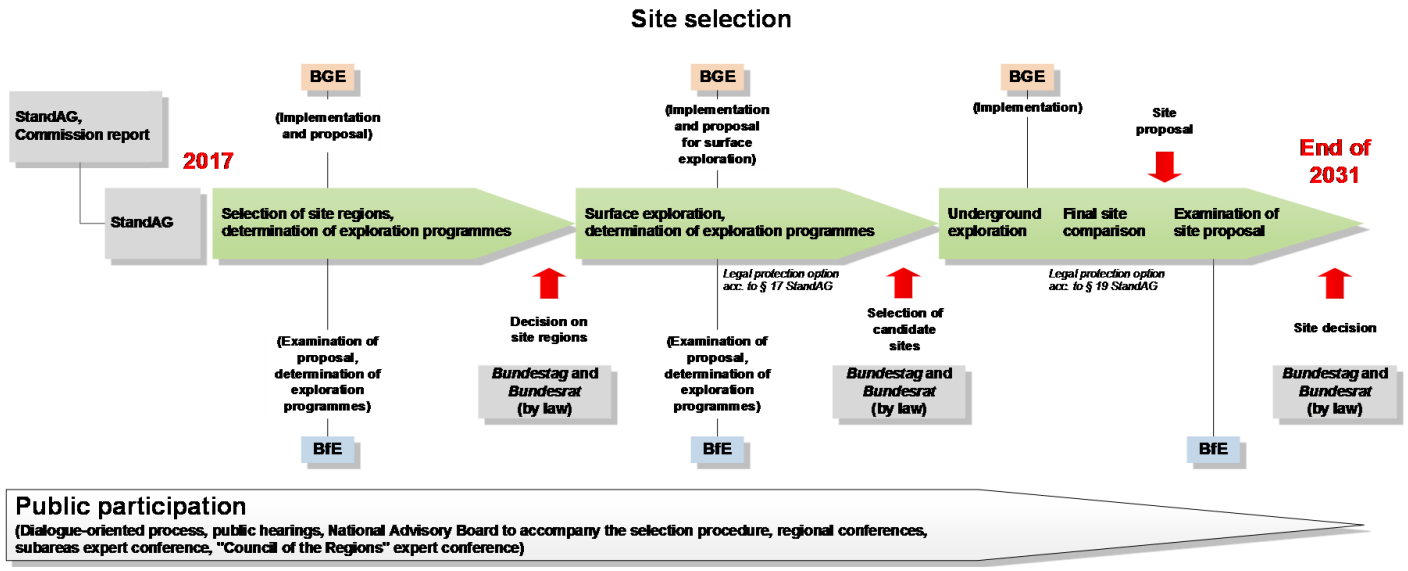

Figure 1. Steps in the site selection for a disposal facility for heat-generating radioactive waste, including responsibilities.

The exploration of the Gorleben salt dome was stopped in November 2012 due to the initial discussions about fundamental reorganisation regarding disposal of heat-generating radioactive waste. The mine will be kept open in a reduced operating mode until a site is selected or it is excluded from the site selection procedure according to established criteria.

Decommissioning of the United Kingdom's Magnox Power Stations

The fleet of first generation Magnox reactors consisted of 26 reactors on 11 sites, including four reactors at Sellafield. The reactors all ceased operation between 1989 and 2015. All are currently in defueling or decommissioning with an objective of going into care and maintenance for a prolonged period of about 70 years to allow time for radiation levels in reactor cores to decay naturally, prior to final dismantling.

All fuel has been removed from nine of the sites and sent to Sellafield for reprocessing.

Decommissioning consists of removing redundant plant and buildings and immobilization of any intermediate level waste on the site. The structures remaining on sites entering care and maintenance will typically consist of two or four reactor buildings, depending on the number of reactors on the site, an intermediate level waste store and a decontaminated spent fuel pond building.

The most advanced Magnox decommissioning site in terms of preparation for care and maintenance is Bradwell, which housed two Magnox reactors.

TOPICS OF INTEREST

In recent years, the following has been achieved:

- All underground waste vaults on the site have been emptied and the waste immobilised in metallic drums.
- At the spent fuel pond complex, the walls, floor and ceiling have been decontaminated over a four year period.
- Metallic Fuel Element Debris (FED) has been dissolved in a specially designed plant that dramatically reduces its volume prior to packaging for disposal or being treated and size reduced before disposal at the UK's Low Level Waste Repository.
- More than 2.5 km of pipework and 120-plus tonnes of metal waste were removed.
- Planning permission has been granted that will enable ILW from other Magnox sites to be transferred for storage at Bradwell's purpose-built Interim Storage Facility (ISF). This supports the UK strategy of consolidating waste at fewer regional stores rather than individual sites.
- Between 2012 and 2016, the two reactor buildings were re-clad to ensure they are weathertight.
- Preparations are ongoing for the site to be managed from the nearby Sizewell A site, when entering care and maintenance, rather than having its own site management.

Another site that has been making significant progress in recent years is Berkeley where a complex range of mixed wastes had accumulated in a number of underground vaults on the site.

Berkeley site has four Intermediate Level Waste underground vaults, with only vaults 1, 2 and 3 containing waste. The vaults were used to store FED from fuel route activities, sludge and resin from the Active Effluent and Pond Water treatment plants, and miscellaneous contaminated items, all arising from the operational phase of Berkeley Power Station.

The FED is held in Vaults 1 and 2, with Vault 3 holding Sludge Cans and the majority of Containerised Waste Cans. Retrievals from Vault 2 by the operations team commenced in June 2016 using remotely operated equipment and currently approximately 88 Te of FED has been retrieved into 54 Ductile Cast Iron Containers which have been conditioned and stored in the Interim Storage Facility on the site.

Figure 2. Aerial view of Bradwell in 2015 during the final stages of cladding installation.

Figure 3. Berkeley Fuel Element Debris Vault 2: Beginning of retrieval operations (left) and after removal of 88 Te of FED (right).

Defueling and decommissioning is proceeding well on all eleven Magnox sites. The first site to enter care and maintenance is expected to be Bradwell in late 2018, with the last site in 2029.

Long term and safe management of spent fuel and radioactive waste in EU Member States

Radioactive waste is generated in all European Union (EU) Member States by a large variety of activities ranging from medical applications to electricity power generation. Owing to its radiological properties and the potential hazard it poses to workers and the general public, it is important to ensure the safe management of such material from generation to disposal. This requires containment and isolation from humans and the living environment over a long period of time.

The EU nuclear legal framework[1] has undergone significant changes in the last decade with the adoption of legislation on nuclear safety, radioactive waste and spent fuel management and in depth revision of the radiation protection acquis.

The adoption in 2011 of a Directive on the safe and responsible management of spent fuel and radioactive waste was a major step towards achieving a comprehensive and legally binding framework at EU level. Through the implementation of this Directive (2011/70/Euratom[2]), Member States are required to demonstrate that they have taken reasonable steps to ensure that radioactive waste and spent fuel is managed safely and that no undue burden is passed to future generations.

The safe and responsible management of these materials is of particular importance. This is especially the case now as many existing nuclear power reactors are reaching the end of their operational lives and will need to be decommissioned. The radioactive waste and spent fuel generated in this process will need to be stored and/or disposed in a safe and responsible manner in line with the EU law and international legal instruments such as the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

EU Member States had the obligation to transpose the Directive in their national legislation by 2013; to develop their national program for spent fuel and radioactive waste management by 2015 and to notify to the Commission both their program and first national reports on implementation of the Directive by 2015[3].

Member States will also have to update their national programs when needed and report any significant changes to the Commission.

In 2017, the Commission was in a position to provide for the first time a comprehensive overview to the Council, European Parliament and European Union citizens on this important issue. The first report, COM(2017)236[4], was adopted in May 2017, also taking into account the national programs available at the time[5]. In the future, such Commission reports will be submitted every three years to the Council and European Parliament, on the basis of Member States' reports to the Commission on the status of their implementation of the Directive.

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[1] https://ec.europa.eu/energy/en/topics/nuclear-energy

[2] Council Directive 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste

[3] Articles 13 to 15 of the Directive

[4] Report from the Commission to the Council and the European Parliament on progress of implementation of Council Directive 2011/70/EURATOM and an inventory of radioactive waste and spent fuel present in the Community's territory and the future prospects

[5] Twenty-four adopted national programs and remaining drafts under approval at national level

Having reviewed all national reports, as well as the national policies, frameworks and programs submitted by September 2016, the Commission recognizes Member States' efforts in implementing the Directive and encourages Member States to continue these efforts. The EU is the most advanced region of the world in developing deep geological repositories. Globally, Finland is the first country where the construction of a deep geological facility has begun; this is expected to be in operation by around 2022. France and Sweden expected to start operations by 2030.

By the end of 2017, all Member States have notified their transposition measures and declared full transposition however, five Member States have still open infringement procedures for the non-communication of their national programs. The Commission's view is that overall there is a good level of compliance with respect to the legal and regulatory basis for spent fuel and radioactive waste in the EU Member States. The Commission may launch infringement procedures in case where Member States are not in compliance with the Directive.

However, the Commission acknowledges that more remains to be done to ensure the long-term safe and responsible management of radioactive waste and spent fuel. Additional effort is needed in a number of areas in particular with respect to:

(i) policies, concepts, plans, research and site selection for intermediate level waste and high level waste (including spent fuel) disposal,

(ii) projections of inventories for spent fuel and radioactive waste, and

(iii) cost assessments and financing mechanisms.

Concrete planning to develop long-term solutions for high level waste, intermediate level waste and spent fuel management, including research, development and demonstration activities should be put in place in all Member States as soon as possible to avoid placing an undue burden on future generations. In addition, the need for comprehensive national inventories of spent fuel and radioactive waste and reliable estimates of inventory future forecasts are also of high importance for the development of a better understanding of the inventory trends on the EU territory but also for ensuring reliable estimates of the costs involved with the management of these materials.

The periodic international peer reviews required by the Directive are of great importance in building stakeholders' trust and confidence in the management of these materials in the EU. The first ARTEMIS peer review took place in Poland in 2017, which is to be followed by France, Bulgaria, Luxembourg and Spain in 2018.

In view of enhanced transparency and knowledge sharing and with an eye to the next reporting under the Directive, due in August 2018, the Commission organized a workshop with Member States on 7 November 2017 on the safe and responsible management of radioactive waste and spent fuel. The Commission is also engaged in a number of studies and international projects in collaboration with the IAEA and the NEA/OECD.

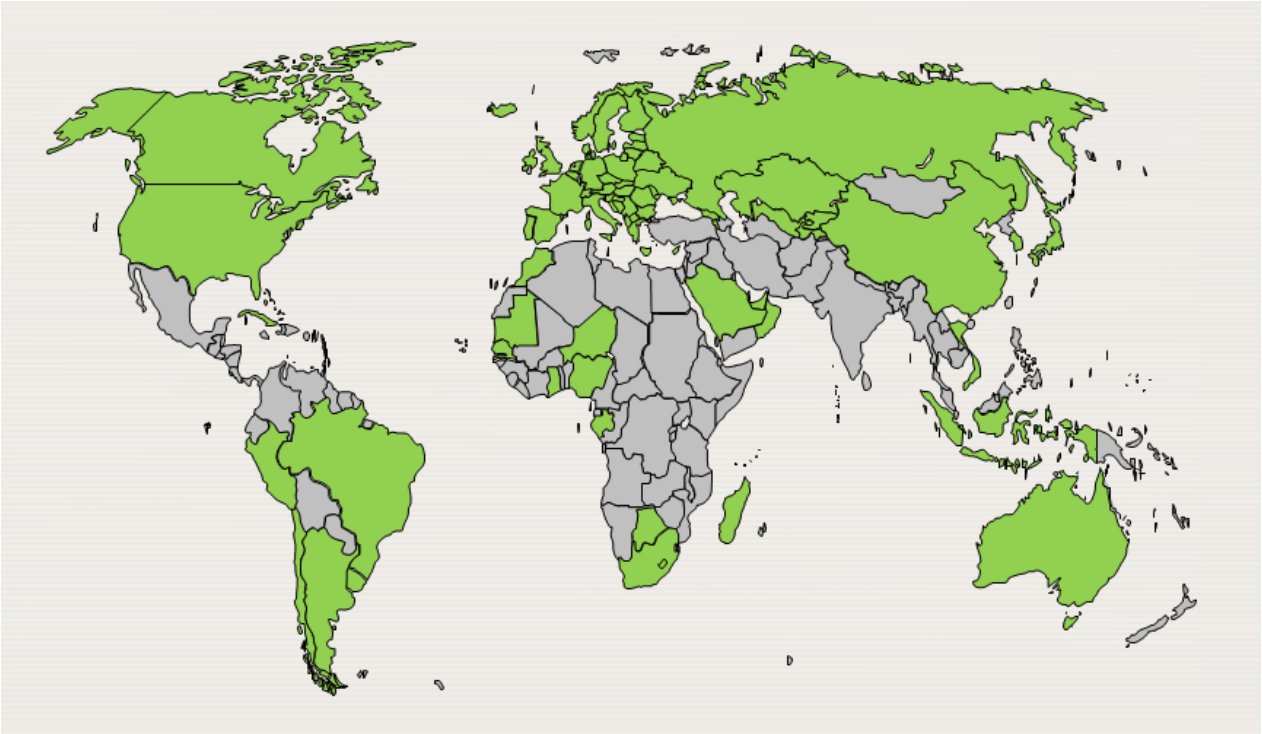

Figure 4. Green shading indicates Contracting Parties to the Joint Convention as of December 2017.

Four New Contracting Parties

As of December 2017, the Joint Convention consists of 77 Contracting Parties (subject to entry into force). 4 Contracting Parties have joined since the last issue of *Joint Convention News* in December 2016.

RECENTLY JOINED CONTRACTING PARTIES		
Continent	*Country*	*Entry into Force*
Africa	**Niger**	**5 March 2017**
Africa	**Madagascar**	**1 June 2017**
Latin America and the Caribbean	**Cuba**	**1 October 2017**
Europe	**Serbia**	**18 March 2018**

SIXTH REVIEW MEETING PROCESS SCHEDULE

23 October 2017

Deadline for Submission of National Reports

23 February 2018

Deadline for Submission of Questions and Comments on National Reports

23 April 2018

Deadline for Submission of Answers for National Reports

21 May 2018

Commencement of the Sixth Review Meeting

Joint Convention News

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Thank you to the Contracting Parties who contributed to this issue of Joint Convention News.